

PATENT

Attorney Docket No.: AMAT/5799/TCG/ALD/BG
Express Mail Label No. EV 041916834 US

ABSTRACT OF THE DISCLOSURE

A method for depositing a tungsten nitride layer is provided. The method includes a cyclical process of alternately adsorbing a tungsten-containing compound and a nitrogen-containing compound on a substrate. The barrier layer has a reduced resistivity, lower concentration of fluorine, and can be deposited at any desired thickness, such as less than 100 angstroms, to minimize the amount of barrier layer material.